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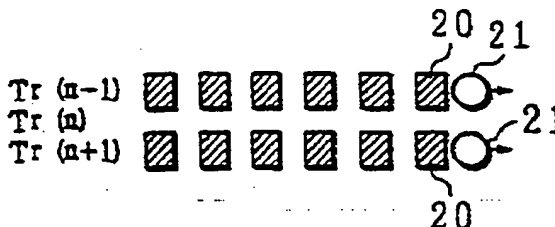
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(54) Recording condition control method, recording condition control device, and optical recording medium for optical recording apparatus

(57) A recording condition control method for an optical recording apparatus includes: a first step of varying a light quantity of a light beam or a strength of an external magnetic field so that a plurality of predetermined recording conditions are set; a second step of recording a first test pattern on a first track on an optical recording medium; a third step of recording a second test pattern on a second track adjacent to the first track; a fourth step of reading the first test pattern on the first track so as to detect a signal quantity; a fifth step of storing the recording conditions and the amplitudes by relating them with

each other; a sixth step of searching the signal quantities stored for one approximating most to a predetermined value; and a seventh step of selecting the signal quantity searched out through the sixth step as the optimal recording condition. By this method, the width of the record marks is optimally controlled, while crosstalk occurring between tracks upon signal reproduction and crosserase (erasure of end portions of record marks due to effusion of record from an adjacent track) upon signal recording are minimized. As a result, it is possible to realize high-densification of tracks.

FIG. 3 (a)



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FIG. 3 (b)

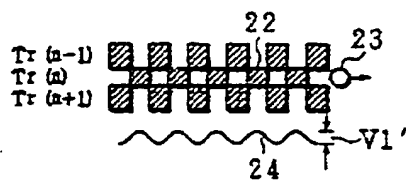


FIG. 3 (c)

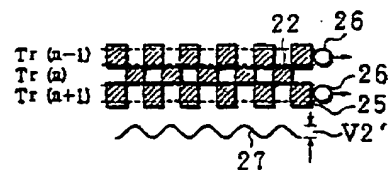


FIG. 3 (d)

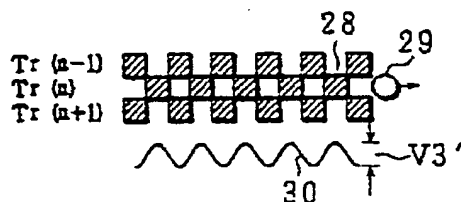


FIG. 3 (e)

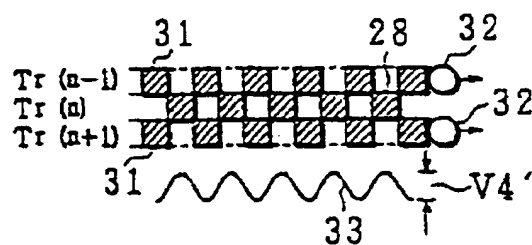


FIG. 3 (f)

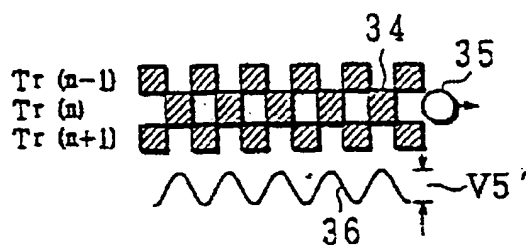
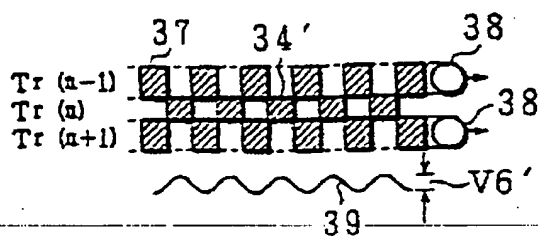


FIG. 3 (g)





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EUROPEAN SEARCH REPORT

Application Number
EP 98 11 2306

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Category	Citation of document with indication where applicable of relevant passages	Relevant class	Classification of the application (IPC Class)
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A	EP 0 725 397 A (CANON KK) 7 August 1996 (1996-08-07) * the whole document *	1-22	
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P.A.	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 10, 31 August 1998 (1998-08-31) & JP 10 134354 A (HITACHI MAXELL LTD), 22 May 1998 (1998-05-22) * abstract *	1,22	TECHNICAL FIELDS SEARCHED G11B
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The present document is a continuation-in-part of EP 98 11 2306.

Field of search	Date of completion of the search	Examiner
THE HAGUE	20 June 2001	NANOS A.
CATEGORY OF CITED DOCUMENTS		
1. Documents relevant to the invention 2. Documents relevant to the invention but not relevant to the application 3. Documents of the state of the art 4. Documents of the state of the art 5. Documents of the state of the art 6. Documents of the state of the art 7. Documents of the state of the art 8. Documents of the state of the art 9. Documents of the state of the art 10. Documents of the state of the art 11. Documents of the state of the art 12. Documents of the state of the art 13. Documents of the state of the art 14. Documents of the state of the art 15. Documents of the state of the art 16. Documents of the state of the art 17. Documents of the state of the art 18. Documents of the state of the art 19. Documents of the state of the art 20. Documents of the state of the art 21. Documents of the state of the art 22. Documents of the state of the art 23. Documents of the state of the art 24. Documents of the state of the art 25. Documents of the state of the art 26. Documents of the state of the art 27. Documents of the state of the art 28. Documents of the state of the art 29. Documents of the state of the art 30. Documents of the state of the art 31. Documents of the state of the art 32. Documents of the state of the art 33. Documents of the state of the art 34. Documents of the state of the art 35. Documents of the state of the art 36. Documents of the state of the art 37. Documents of the state of the art 38. Documents of the state of the art 39. Documents of the state of the art 40. Documents of the state of the art 41. Documents of the state of the art 42. Documents of the state of the art 43. Documents of the state of the art 44. Documents of the state of the art 45. Documents of the state of the art 46. Documents of the state of the art 47. Documents of the state of the art 48. Documents of the state of the art 49. Documents of the state of the art 50. Documents of the state of the art 51. Documents of the state of the art 52. Documents of the state of the art 53. Documents of the state of the art 54. Documents of the state of the art 55. Documents of the state of the art 56. Documents of the state of the art 57. Documents of the state of the art 58. Documents of the state of the art 59. Documents of the state of the art 60. Documents of the state of the art 61. Documents of the state of the art 62. Documents of the state of the art 63. Documents of the state of the art 64. Documents of the state of the art 65. Documents of the state of the art 66. Documents of the state of the art 67. Documents of the state of the art 68. Documents of the state of the art 69. Documents of the state of the art 70. Documents of the state of the art 71. Documents of the state of the art 72. Documents of the state of the art 73. Documents of the state of the art 74. Documents of the state of the art 75. Documents of the state of the art 76. Documents of the state of the art 77. Documents of the state of the art 78. Documents of the state of the art 79. Documents of the state of the art 80. Documents of the state of the art 81. Documents of the state of the art 82. Documents of the state of the art 83. Documents of the state of the art 84. Documents of the state of the art 85. Documents of the state of the art 86. Documents of the state of the art 87. Documents of the state of the art 88. Documents of the state of the art 89. Documents of the state of the art 90. Documents of the state of the art 91. Documents of the state of the art 92. Documents of the state of the art 93. Documents of the state of the art 94. Documents of the state of the art 95. Documents of the state of the art 96. Documents of the state of the art 97. Documents of the state of the art 98. Documents of the state of the art 99. Documents of the state of the art 100. Documents of the state of the art		



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Application Number

EP 98 11 2208

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

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**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

EP 98. 11 2208

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-43

A recording condition control method and associated device for an optical recording apparatus determining an optimal recording condition by amplitude detection of two recorded test patterns in adjacent tracks.

2. Claims: 44-46

An optical recording medium with a test pattern record region used for optimally controlling recording condition which is sectioned by reference marks used for generating an external clock.

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 11 2208

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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20-06-2001

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